

Appendix D2 – Community-Based Approach – N. Johnson and S. Mealey

A “COMMUNITY-BASED” APPROACH TO PROVIDING FOR DIVERSITY ON THE NATIONAL FORESTS

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The National Forest Management Act (NFMA) states that planning for the national forests must “Provide for the diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan...provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan.” The purpose of this proposal is to suggest an approach to address this “diversity” clause as part of land and resource planning on the national forests.

Key Assumptions

- 1) The approach is based on the literal NFMA requirement for plant and animal diversity at the “community” (coarse scale) level, as opposed to the “population” (fine scale) level, except where the Endangered Species Act (ESA) and memoranda-of-agreement with state wildlife and fish management agencies provide otherwise.
- 2) Overall multiple-use objectives guide planning for the diversity of plant and animal communities.
- 3) Species population viability is the primary business of state wildlife and fish management agencies, and federal agencies charged with administering the ESA.
- 4) Community species diversity can be determined in large part from the composition and structure of dominant community elements.

A Three Tiered Approach

Tier One – Community Diversity

Thanks to years of effort by the Forest Service including advances in GIS capability, most national forests have been delineated and mapped by ecosystem composition and structure. Using this information it is possible to discern the major plant community-types (e.g. habitat types, plant associations, etc.) and their structural stages and key attributes (i.e., seral stage, fire condition class, etc.). Composition and structure can act in

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some cases as surrogates for many ecosystem characteristics including, soil-type, successional stage, climate, disturbance history, and wildlife communities.

The abundant literature on wildlife habitat relationships is key to developing or validating wildlife community associates. Associated species listed or recognized under the ESA, and any associated state recognized sensitive species or species of concern can be obtained from appropriate federal and state agencies. Plant community composition and structure along with associated animal community information can, therefore, provide a logical means to define forest and rangeland conditions at the coarse-scale, community level. Ranges of desired conditions, defined in these terms can be set as the basis for a coarse filter approach to providing for diversity of plant and animal communities.

Planning Process to Provide for Diversity of Plant and Animal Communities:

- 1) Describe “suitability and capability of the land”. Determine “suitability of the specific land area” in part to help describe a range of desired future conditions for diversity of plant and animal communities (referenced in part to “within” community characteristics and “between” community patterns as in 3) and 4) below). Land use history, disturbance ecology/history, fire condition class (and associated expected ecological conditions and values), historic range of variability (HRV), animal species’ history/natural history among other factors would be considered in making determinations. Other considerations would be social, cultural and economic factors, and habitat requirements for federal and state listed species determined through federal, state and other appropriate sources.
- 2) Describe overall multiple use objectives. These objectives will guide the determination of the types, abundance and distribution of plant and animal communities and their variation over time, including the “diversity of tree species similar to that existing in the region controlled by the plan”.
- 3) Describe “Within” Community Characteristics: Complete “coarse-scale” description of **major** communities (ecological types). These could be broad, recognized plant series or associations with their structural stage and attributes, (i.e., “mature/old sagebrush community”; fire condition class 3) along with commonly associated, dominant animal components, and any associated species listed or recognized under the ESA, and any associated state recognized sensitive species or species of concern. Descriptions would consider occurrence and density of plants and occurrence and relative abundance of vertebrates. Other factors would include seral/structural stage, habitat pattern (horizontal and vertical structures) fire condition class, and ecotone.
- 4) Describe “Between” Community Patterns: Complete coarse-scale description of

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“between” community landscape patterns over large areas (the abundance and distribution of different communities across a reasonably large area in which USFS lands are imbedded.)

- 5) Assess Trends Over Time: assess “within” and “between” community conditions over time in terms of “increasing”, “decreasing” or “stable” trends, in order to document the relationship between current and desired future conditions, and to measure the degree to which community diversity is provided by the plan.

Tier Two – Threatened and Endangered Species

Planning Process to Address Threatened and Endangered Species

The forest plan would provide for the conservation of species listed as threatened or endangered, or proposed (in the Federal Register) for listing under the ESA. Once species are listed or proposed for listing as threatened or endangered, management activities on national forests affecting the habitat of listed species must be in compliance with the requirements of ESA.

Tier Three – Sensitive Species

To preclude and ward-off listing species under the ESA, the plan would make special consideration of habitat for those species shown to be sensitive through formal partnership efforts including appropriate state and federal wildlife and fish management/regulatory agencies. Examples of possible criteria for determining “sensitive species” could include: 1) species identified by the U.S. Fish and Wildlife Service as Category 1 candidate species, 2) species identified by the Network of Natural Heritage Programs and Conservation Data Centers with global species rankings of G1 (T1) or G2 (T2). 3) Species listed by states as threatened, endangered or “of concern.”

Planning Process to Address Sensitive Species

In considering whether or not new modified forest plan direction is needed for sensitive species the following would be undertaken:

- 1) Sensitive species for the plan area and their habitat needs would be identified. These analyses may need to be done at a scale (geographic scope) greater than a national forest.
- 2) The habitat needs of sensitive species and/or assemblages of sensitive species would be compared to existing forest plan direction or, in the case of revision of a forest plan the habitat needs would be compared against the tentatively proposed revision to the forest plan direction.

If a continued downward trend in habitat capability is predicted to occur and predicted to result in the need for federal listing of the species or if it is predicted that the sensitive species would be extirpated from the plan area, forest

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plan direction would be modified to protect the habitat capability of the sensitive species in an attempt to preclude the need for federal listing or extirpation from the plan area.

Where the Forest Service and appropriate state and federal agencies have approved conservation agreements for sensitive species and relevant direction from agreements is incorporated into forest plans or other regulatory mechanisms, the requirement to establish direction to protect the habitat capability of sensitive species would be met.

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PRINCIPLES BEHIND A “COMMUNITY-BASED” APPROACH TO PROVIDING FOR DIVERSITY ON THE NATIONAL FORESTS SUGGESTED BY S. MEALEY AND N. JOHNSON

**Norm Johnson
February 20, 2003**

The National Forest Management Act (NFMA) states that planning for the national forests must “Provide for the diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan...provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan.” The purpose of this proposal is to suggest an approach to address this “diversity” clause as part of land and resource planning on the national forests.

Major principles:

- 1) Overall multiple-use objectives guide planning for the diversity of plant and animal communities.

Community Diversity

- 2) The different composition and structural phases of major ecological types that occur over time after disturbances are useful ways of representing plant and animal communities as are the composition and structural phases that result from management. These major ecological types generally correspond to potential vegetation series.
- 3) The “capability and suitability of the specific land area” can generally be expressed in terms of the abundance and distribution of these phases of major ecological types. Land use history, disturbance ecology/history, fire condition class (and associated expected ecological conditions and values), historical range of variability (HRV), animal species’ history/natural history among other factors would be considered in making determinations. Other considerations would be social, cultural and economic factors, and habitat requirements for federal and state-listed species determined through federal, state and other appropriate sources. These analyses would often need to be done at a scale (geographic scope) greater than a national forest.
- 4) The desired future condition in different alternatives would be expressed largely in terms of the abundance and distribution of these phases with the information in 3) above used to describe the implications of alternatives for achievement of multiple use objectives.
- 5) Monitoring over time will be done in terms of “increasing”, “decreasing” or “stable” trends, in order to document the relationship between current and desired future

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- 6) conditions, and to measure the degree to which community diversity is provided by the plan.

Species Diversity

- 7) The forest plan would provide for the conservation of species listed as threatened or endangered, or proposed (in the Federal Register) for listing under the ESA. Once species are listed or proposed for listing as threatened or endangered, management activities on national forests affecting the habitat of listed species must be in compliance with the requirements of ESA.
- 8) To preclude and ward-off listing species under the ESA, the plan would make special consideration of habitat for those species shown to be sensitive through formal partnership efforts including appropriate state and federal wildlife and fish management/regulatory agencies. These state and federal wildlife and fish agencies would generally take the lead in population analysis.
- 9) The habitat needs of sensitive species and/or assemblages of sensitive species would be compared to existing forest plan direction, or in the case of revision of a forest plan the habitat needs would be compared against the tentatively proposed revision to the forest plan direction. These analyses would often need to be done at a scale (geographic scope) greater than a national forest.
- 10) If a continued downward trend in habitat capability is predicted to occur and predicted to result in the need for federal listing of the species or if it is predicted that the sensitive species would be extirpated from the plan area, forest plan direction would be modified to protect the habitat capability of the sensitive species in an attempt to preclude the need for federal listing or extirpation from the plan area.